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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,429	11/03/2003	Glenn Joseph Leedy	ELM-1 Cont. 10	5639
1473	7590	07/11/2005	EXAMINER	
FISH & NEAVE IP GROUP ROPES & GRAY LLP 1251 AVENUE OF THE AMERICAS FL C3 NEW YORK, NY 10020-1105			RAO, SHRINIVAS H	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,429

Applicant(s)

LEEDY, GLENN JOSEPH

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 77-272 is/are pending in the application.
- 4a) Of the above claim(s) 77-109, 211-222 and 254-272 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 110-209 and 223-258 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date NOT COMPIRANT (NOV/449)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

Election/Restrictions

Applicant's election without traverse of group III (claims 109-210 and 223-258) in the reply filed on January 24, 2005 is acknowledged.

Specification

Content of Specification

Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

Applicants' Preliminary amendment contains a reference to the parent application without specifying the current status of the parent application, which if it has matured into a patent must be stated along with the patent number and issue date.

Applicants' current specification is replete with mistakes .

A sampling of the mistakes include page 17 lines 3-10 applicants' use the word, "membrane", in English language the word, "membrane" means a layer derived from animal or plant origin .

Applicants' seem to use membrane and layer interchangeably.

Appropriate correction is required.

On page 24 line 23 Applicants' use isolation and passivation interchangeably.

Appropriate correction is required.

On page 30 Applicants' the word, "optical signal fluence" contrary to the normal usage in English.

Applicants' cooperation is requested to correct the numerous changes and improper usage in the specification.

The office reserves the right to require the applicants' to submit a substitute specification if the specification is not fully corrected.

Information Disclosure Statement

The information disclosure statement filed to date all fail to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 109-201 and 223-258 are rejected under 35 U.S.C. 103 as being unpatentable over Shimoji (U.S. Patent No. 5,420,458, herein after Shimoji) and Mattox (U.S. Patent No. 4,825,277, herein after Mattox).

With respect to claim 109, 122 , 163, 179 and 194, Shimoji describes a method of making an integrated circuit including the steps of :

Forming a thin substrate (Shimoji, Fig. 3 A # 21, col. 3 line 48) and forming on the substrate circuitry including active devices (Shimoji, Fig. 2 C # 51, 52, col. 3 lines 65-68) ;

Shimoji does not specifically describe the integrated circuit is substantially flexible while retaining its structural integrity

However Mattox in col. 9 lines 1-13 describes the integrated circuit is substantially flexible while retaining its structural integrity to the semiconductor surface.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the Mattox's stress controlled dielectric membrane instead of Shimoji's to dielectric layer form devices having controlled stress relative to the semiconductor surface (Mattox col. 2 lines 5-10).

And removing a major portion of the semiconductor substrate while retaining the structural integrity (Shimoji Fig. 6 B # 8, col. 4 lines 50-57).

With respect to dependent claims 110- 114, 123-127, 136-140, 147-150, 153-155, 159-160, 164-166, 174-176, 180-182, 190-192, 196-198 and 206-209 , wherein the thin substrate is formed prior to forming circuitry (Shimoji, Fig. 3 A # 21, col. 3 line 48); after forming said circuitry; (Shimoji fig. 4 , col. 4 lines 5-15) an elastic dielectric layer

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overlying the active devices. (Shimoji, Fig. 2 C # 51, 52, col. 3 lines 65-68, Mattox) ; deposition of elastic dielectric film by RF , CVD, PECVD (Mattox , all well known in the art methods of deposition and also Shimoji col. 4 lines 15-20).

With respect to dependent claims 115, 128, 141, 151, 156, 161, 167, 177, 183, 193, 199 , wherein the dielectric membrane is caused to have a stress of 8×10^8 dynes/cm² or less. (See Mattox claim 9 and Mattox does not specifically mention a surface stress of 8×10^8 dynes/cm². However Mattox in col. 7 lines 45-52 describes the stress range to be between -1 to 5×10^9 dynes/cm² to 1×10^9 to form devices having controlled stress relative to the semiconductor surface).

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the stress range 8×10^8 dynes/cm² instead of Mattox's previously described overlapping range of 1 to 5×10^9 dynes/cm² to 1×10^9 dynes/cm² to form devices having controlled stress relative to the semiconductor surface (Mattox col. 2 lines 5-10).

With respect to claims 116, 119 –120, 129, 132-133, 142, 145-146, 149, 157-159 162-164-165, 168, 171-172, 174, 178, 184, 187-188, 194, 196-197, 200, 203-204, 206-207 and 210 wherein the stress is tensile (Mattox abstract line 8, etc.); silicon or dielectric substrate (Shmioji see rejection of clam 110 above) ;

With respect to Claims 121, 147 and 205 wherein the integrated circuit can be thinned to 50 microns. (Mattox col. 4 lines 15-23).

With respect to remaining claims including claims 117-118, 130-131, 134-135, 141, 143-14, 145, 156, 167, 168, 169, 177, 183, 185-186, 193, 195, 199 201-202, 206-209

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and 205 wherein the dielectric layer is formed of inorganic material (Shmioji, silicon dioxide/nitride) or organic (Shmioji or well Know – e.g.TOES) .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (571)272-1718. The examiner can normally be reached on 8.00 to 5.00.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven H.Rao

June 25, 2005.

LONG PHAM
PRIMARY EXAMINER